

**UNITED STATES DISTRICT COURT
SOUTHERN DISTRICT OF OHIO
WESTERN DIVISION**

UNITED STATES OF AMERICA,	:	Case No. 1:18-cr-043
	:	
vs.	:	Judge Timothy S. Black
	:	
YANJUN XU,	:	
	:	
Defendant.	:	

**ORDER RESOLVING DEFENDANT’S
OBJECTION TO THE PRESENTENCE INVESTIGATION REPORT’S
LOSS AMOUNT COMPUTATION**

This criminal case is before the Court on Defendant’s objection to the loss amount computation set forth in the Presentence Investigation Report (“PSR”) and endorsed by the Government. (Doc. 197, 199). On August 23, 2022, the Court held a pre-sentencing evidentiary hearing on Defendant’s objection, at which time the parties presented evidence and testimony in support of their proposed loss amounts. (Doc. 204). The Court also has before it the parties’ post-hearing briefs. (Docs. 205, 206, 207).

I. BACKGROUND

On April 4, 2018, Defendant Yanjun Xu was charged by way of a four-count indictment with the following offenses: conspiracy to commit economic espionage, in violation of 18 U.S.C. § 1831(a)(5) (Count 1); conspiracy to commit trade secret theft, in violation of 18 U.S.C. § 1832 (a)(5) (Count 2); attempted economic espionage by theft or fraud (Victim Company A), in violation of 18 U.S.C. § 1831(a)(1), (a)(4) (Count 3); and attempted theft of trade secrets by taking or deception (Victim Company A), in violation of 18 U.S.C. § 1832 (a)(1), (a)(4) (Count 4). (Doc. 1).

The four counts charged in the Indictment arise from Defendant's role in unlawfully obtaining trade secrets and other technical information from aviation and aerospace companies in the United States and Europe, for the benefit of a foreign government, foreign instrumentality, or foreign agent—namely, Defendant, other MSS officers, NUAA, and the People's Republic of China.¹ Specifically, Counts 1 and 2 charged Defendant with engaging in an overarching conspiracy to commit the offenses of economic espionage and theft of trade secrets, relating to various aviation and aerospace companies, during the time period of 2013 to April 1, 2018. (Doc. 1 at 5-14). Counts 3 and 4 charged Defendant with attempting to commit the substantive offenses of economic espionage and theft of trade secrets, during the time period of May 2017 to April 1, 2018, specifically as to GE Aviation's trade secrets and technical information relating to fan blades and fan blade encasements, as well as the composite material used in their manufacture. (*Id.* at 14-15).

On October 18, 2021, the case proceeded to a three-week jury trial, and Defendant was ultimately convicted on all four counts. (Min. Entry, Oct. 18, 2021; Doc. 176). Following Defendant's conviction, the Court ordered, as it does in all cases, the preparation of the PSR. (Min. Entry, Nov. 5, 2021).

¹ Defendant is a citizen of the People's Republic of China and a Deputy Division Director, Sixth Bureau of Jiangsu Province, of the Ministry of State Security ("MSS"). (Doc. 1 at 1). MSS is China's intelligence and security agency, responsible for counterintelligence, foreign intelligence, and political security, and has broad powers in China to conduct espionage both domestically and abroad. On behalf of the MSS, Defendant and other MSS officers engaged in recruiting experts from leading aviation companies and then, through the use of aliases and misrepresentations, bringing the experts to China in order to obtain from them technical information belonging to the experts' employers, *i.e.*, the aviation companies.

Defendant's PSR was completed on April 13, 2022. (Doc. 197). As always, the PSR set forth, among other things, a summary of Defendant's offenses of conviction, Defendant's history and background, and the U.S. Probation Office's proposed offense level computation. (*Id.*) Given the nature of Defendant's offenses of conviction, the offense level computation is driven, in large part, by the loss amount in this case. (*Id.* at 13-15; *see* USSG § 2B1.1).

Specifically, the PSR notes that, because "[D]efendant was not successful in obtaining trade secrets from GE Aviation," the loss computation would be based on the intended loss amount. (Doc. 197 at 13, ¶ 57). In that regard, the PSR relies on GE Aviation's "conservative loss estimate of \$[98] million," which estimate is based on the sum of GE Aviation's reported costs for composite fan blade and case development over time. (*See* Doc. 199-1 at 1). (*Id.*)² The Government concurs with the PSR's loss computation; Defendant, however, objects and contends that the loss amount should instead be zero.³ Alternatively, Defendant argues that, even if the Court were to adopt the Government's proposed methodology for calculating the loss, the Government's loss computation is overstated and should be closer to \$50,000. (Doc. 205).

² Due to a typographical or mathematical error contained in the Government's Exhibit A, the PSR actually quotes an intended loss amount of \$107 million, rather than \$98 million. (*See* Doc. 199-1 at 1). However, this error does not change Defendant's offense level, as any loss amount greater than \$65 million but less than \$150 million results in the same 24-level increase under the Guidelines. USSG § 2B1.1(b)(1)(M). In the interest of accuracy, the Court will use \$98 million in this Order when referencing the PSR's and the Government's loss amount.

³ Defendant lodged additional objections to the PSR, all of which the Court will address at the time of sentencing. However, given the significance of the loss amount for purposes of sentencing, the Court agreed to resolve the objection in advance of sentencing. Thus, this Order focuses solely on Defendant's objection to the loss amount computation.

II. STANDARD OF REVIEW

The Court's duty at sentencing is to impose a sentence that is sufficient, but not greater than necessary, to accomplish the purposes of sentencing. 18 U.S.C. § 3553(a). In that regard, the Court's "starting point and the initial benchmark" is the United States Sentencing Guidelines, which provide an advisory, non-binding sentencing range for the Court's consideration. *Gall v. United States*, 552 U.S. 38, 49 (2007).

For purposes of sentencing, judicial findings of fact are based on a preponderance of the evidence standard.⁴ *United States v. Jones*, 829 F.3d 476, 477 (6th Cir. 2016) (*per curium*), *cert. denied*, 137 S. Ct. 681 (2017). At the time of sentencing, the Court may adopt, as its own finding of fact, any undisputed portions of the presentence investigation report. Fed. R. Crim. P. 32(i)(3)(A). However, the Court "must--for any disputed portion of the presentence report or other controverted matter--rule on the dispute or determine that a ruling is unnecessary either because the matter will not affect sentencing, or because the court will not consider the matter in sentencing." Fed. R. Crim. P. 32(i)(3)(B).

The Government bears the initial burden of proving aggravating facts at sentencing by a preponderance of the evidence. *See, e.g., United States v. Woods*, 604 F.3d 286, 290 (6th Cir. 2010); *United States v. Stubblefield*, 682 F.3d 502, 510 (6th Cir. 2012). "To create a factual dispute, a defendant 'must produce some evidence that calls

⁴ "[D]ue process does not require sentencing courts to employ a standard higher than preponderance-of-the-evidence, even in cases dealing with large enhancements." *Jones*, 829 F.3d at 477 (quoting *United States v. Brika*, 487 F.3d 450, 462 (6th Cir. 2007)).

the reliability or correctness of the alleged facts into question’-a burden of production that requires ‘more than a bare denial.’” *United States v. Cover*, 800 F.3d 275, 278 (6th Cir. 2015) (*United States v. Lang*, 333 F.3d 678, 681 (6th Cir. 2003)).

“[S]entencing judges ‘exercise a wide discretion’ in the types of evidence they may consider when imposing sentence.” *Pepper v. United States*, 562 U.S. 476, 480 (2011) (quoting *Williams v. New York*, 337 U.S. 241, 246–247 (1949)). Indeed, with little exception, “[n]o limitation shall be placed on the information concerning the background, character, and conduct of a person convicted of an offense which a court of the United States may receive and consider for the purpose of imposing an appropriate sentence.” 18 U.S.C. § 3661; *United States v. Louchart I*, 680 F.3d 635, 637 (6th Cir. 2012) (“To the extent that [the defendant] argues that he can be held accountable at sentencing only for the [facts] that he admits ..., the law does not support such a limit”).

III. ANALYSIS

Defendant argues that the Court should reject the Government’s proposal to use the cost of research and development to calculate the loss in this case. (Docs. 205, 207). However, the Court must note that Defendant’s argument in this regard is often circuitous and tends to conflate the concept of Defendant’s (or, more specifically, China’s) gain versus the victim’s potential loss. Moreover, while the Court acknowledges that Defendant has asserted and continues to maintain his innocence in this case, the Court declines to adopt Defendant’s approach of undermining the loss computation by ignoring the jury’s findings (*i.e.*, the findings of guilt beyond a reasonable doubt—well in excess of the preponderance of the evidence standard applicable at sentencing).

Nevertheless, and as fully stated, *infra*, the Court finds that, based on the existing case law, Defendant cannot be held accountable for the entirety of the cost of research and development. A potential loss in profits is, instead, the better measure.

A. Methods of Loss Computation

“The government bears the burden to prove the amount of the loss by a preponderance of the evidence.” *United States v. Riccardi*, 989 F.3d 476, 481 (6th Cir. 2021). The Court must then apply that loss amount to the Guideline computation, and increase a defendant’s offense accordingly. USSG § 2B1.1(b)(1).

The Guidelines instruct that “loss is the greater of actual loss or intended loss.” USSG 2B1.1, App. Note 3(A). “Actual loss” is defined as “the reasonably foreseeable pecuniary harm that resulted from the offense.” (*Id.*) On the other hand, “intended loss” means “the pecuniary harm that the defendant purposely sought to inflict,” even if that pecuniary harm “would have been impossible or unlikely to occur.” (*Id.*)

Notably, while “actual loss” encompasses “reasonably foreseeable” damages, “intended loss” does not. Indeed, the United States Sentencing Commission amended the definition of “intended loss” in 2015, in an effort to clarify that “intended loss” should focus on a defendant’s subjective intent. USSG, App. C at 111 (Nov. 1, 2016); *United States v. Manatau*, 647 F.3d 1048, 1050 (10th Cir. 2011) (“‘intended loss’ means a loss the defendant *purposely* sought to inflict ... [and not] a loss that the defendant merely *knew* would result from his scheme or a loss he might have *possibly and potentially* contemplated”).

But the Guidelines and the Sixth Circuit recognize that, in some cases, the loss amount may be difficult to determine with precision. Indeed, the Sixth Circuit has specifically acknowledged the difficulty of determining a loss amount in cases involving intellectual property. *United States v. Howley*, 707 F.3d 575, 582 (6th Cir. 2013) (“Determining the value of a trade secret, we acknowledge, is no easy task”). Thus, the Sixth Circuit has instructed, as do the Guidelines, that, in such instances, so long as the Court offers an explanation of its computation, “district courts need not reach an exact figure for the loss a victim suffered or the amount of harm a defendant caused or intended to cause; **a ‘reasonable estimate’ will do.**” (*Id.*) (quoting USSG 2B1.1, App. Note 3(C) (“[t]he court need only make a reasonable estimate of the loss”)) (emphasis added). “In other words, a court ‘does not have to establish the value of the loss with precision; it simply needs to publish the resolution of contested factual matters that formed the basis of the calculation.’” *United States v. Patel*, 711 F. App’x 283, 286 (6th Cir. 2017) (quoting *United States v. Poulsen*, 655 F.3d 492, 513 (6th Cir. 2011)).

In that regard, the Guidelines set forth a non-exhaustive list of factors that the Court *may* (but is not required to) use in reaching a reasonable estimate of loss, based on the information the Court has before it. Of particular relevance here, the Guidelines state that the Court may consider, “[i]n the case of proprietary information (*e.g.*, trade secrets), the cost of developing that information or the reduction in the value of that information that resulted from the offense.” App. Note 3(C)(ii) (emphasis added).

Here, no computation would allow the Court to determine the exact amount of the loss GE Aviation would have suffered if Defendant’s offense had succeeded. Thus, a

reasonable estimate will suffice. In that regard, the Court's task is two-fold. First, the Court must determine the precise economic harm Defendant intended to inflict upon GE Aviation. And, second, the Court must select and employ a method of computation that will reasonably estimate the monetary cost of that harm.

As to Defendant's intent, the Government's evidence at trial and the jury's ultimate findings are particularly relevant to the Court's analysis. At trial, Defendant was convicted of conspiracy to commit and attempt to commit economic espionage, in violation of 18 U.S.C. § 1831(a)(1), (4), (5) (Counts 1 and 3), as well as conspiracy to commit and attempt to commit trade secret theft, in violation of 18 U.S.C. § 1832 (a)(1), (4), (5) (Counts 2 and 4).

Specifically, as to economic espionage, Defendant was found guilty of knowingly conspiring and attempting to steal, take, copy, or receive GE Aviation's trade secrets, with the intent and knowledge that the offense would **benefit** China and the Chinese government. (See Doc. 172 at 23, 35) (emphasis added). And, as to trade secret theft, Defendant was found guilty of knowingly conspiring and attempting to steal, take, copy, or receive GE Aviation's trade secrets for the **economic benefit** of someone other than GE Aviation, and **intending and knowing that the offense will injure GE Aviation.** (*Id.* at 25, 36) (emphasis added).

In short, the Government has already presented evidence at trial to prove beyond a reasonable doubt, and upon which evidence this Court concludes for purposes of sentencing, that Defendant knowingly and intentionally committed the offense, and did so with the knowledge and intent to: (a) benefit China economically and otherwise; and

(b) inflict economic harm upon GE Aviation.⁵ But the Court must still determine the scope of Defendant's intended economic harm.

The Government, relying upon the Guidelines' suggested methodology for estimating loss in cases involving intellectual property, presented evidence of the cost GE Aviation incurred (conservatively) in researching and developing the technology that Defendant attempted to steal from them. The issue with this methodology, however, is that the cost of research and development may, in theory, be a reliable measure of how much China stood to gain from the theft. However, it does not speak to how much economic loss Defendant intended to inflict on GE Aviation.

In other words, as evidenced at the pre-sentencing evidentiary hearing, GE Aviation spent, conservatively, \$98 million to research and develop its fan blade technology. And so, if Defendant had succeeded in stealing those trade secrets from GE Aviation, China may, in theory, have been able to use that stolen information to develop the same fan blade technology, without having to expend the \$98 million (if not more) to research and develop the technology for itself. Therefore, China would be ahead, at minimum, \$98 million.

⁵ The Court acknowledges that trade secret theft only calls for knowledge and intent that the offense "injure" the owner of the trade secret, but does not require that the injury be economic in nature. Nevertheless, here, the evidence does not support the intent to inflict any other type of injury. Indeed, the only type of non-economic injury that could (but does not) apply in this case would be an attempt to harm GE Aviation's reputation (for instance, trying to publicly embarrass the company by exposing lax security measures). But to accomplish such reputational harm, Defendant and/or the Chinese government would need to publicly admit that the offense occurred. As Defendant denies committing the offense, reputational harm could not be the motive. Thus, economic harm is the only option supported by the evidence.

However, simply because China might have gained (or saved) \$98 million in research and development costs, does not mean that GE Aviation would have lost the entirety of the \$98 million it put into research and development. This is because, even if GE Aviation's fan blade technology lies in the hands of a potential competitor, GE Aviation still possesses the technology as well. Defendant did not ask his recruited GE Aviation employee to steal the information and then delete all trace of it from GE Aviation's systems. Indeed, Defendant attempted to steal the technology surreptitiously. Ideally (for Defendant), GE Aviation would have been none the wiser about the theft. And, therefore, Defendant could not have logically expected, let alone intended, that the offense would deprive GE Aviation of the full value of the research and development. *See United States v. You*, No. 2:19-CR-14, 2022 WL 1397771, at *3 (E.D. Tenn. May 3, 2022) (holding that Defendant stole trade secrets from the victim companies in an effort to enter the global market as a competitor, and so "a finding that Defendant intended to cause the victim companies a dollar-for-dollar loss equal to the amount of research and development funds expended in developing the victim companies' BPA-free coatings is improper here").

So, what economic harm *did* Defendant intend to inflict upon GE Aviation? Quite simply, Defendant's intent was to steal profits out of GE Aviation's pocket and place those profits in China's pocket instead. Therefore, the most reasonable method of calculating the intended loss amount in this case is to estimate GE Aviation's potentially lost profits.

On that note, the Court must address Defendant's argument that GE Aviation's fan blade technology would have been of very little value to China. (Docs. 205, 207). In support of this argument, the defense relies heavily on the testimony of Defendant's opinion witness, Barry Davidson, Ph.D., who testified during the August 23, 2022, pre-sentencing hearing. (Doc. 203; Doc. 204 at 88-144).

In sum, Dr. Davidson testified that, at the time of the offense, China did not have the ability to replicate the composite materials used in GE Aviation's technology, nor could China purchase the materials or the necessary equipment due to export controls. (Doc. 204 at 111-12). Thus, Dr. Davidson opined that any information regarding GE Aviation's research and development alone would have been of nominal value, unless China could also find ways to replicate or acquire the same materials and equipment, and replicate the same techniques, that GE Aviation used in the development process. (*Id.* at 127-28, 143). Dr. Davidson further testified that, in 2017, China was already fairly advanced in its development process, such that, with a little bit of effort and expense, China could have developed its own fan blades and composite containment structures, utilizing the materials and equipment that China had available to it. (*Id.* at 117-20).

The Court finds Defendant's reliance on this testimony flawed and, ultimately, irrelevant to the sentencing issue currently before the Court. Specifically, the Government presented evidence at trial that proved, beyond a reasonable doubt, that Defendant did attempt to intentionally harm GE Aviation by obtaining GE Aviation's intellectual property on behalf of China. Whether or not the endeavor, in hindsight, would have been worth the effort, is not the issue here.

It also bears noting that Dr. Davidson specifically testified that his opinions regarding China's capabilities are based on what Dr. Davidson knows today. (*Id.* at 140) (“when I talked to them in your hypothetical situation, I know everything that I know now, meaning I know China's state-of-the-art, I know the kind of material that was involved in this, I knew all about technology restrictions, et cetera, ... I would have said here's the deal, here's where I think you are, here's what I think you might learn; you know, I don't think you're going to get a lot out of it, do what you want”) (emphasis added). But there is no evidence to suggest that China knew, in 2017, the relative futility of its efforts, without having even seen what GE Aviation's trade secrets might contain.

Moreover, Dr. Davidson acknowledged that he not an expert in China's technology or policies, that his opinions are based on publicly available literature, and that both China and GE Aviation withhold a great deal of information from such public disclosures. (*Id.* at 117, 120, 121, 126). Indeed, with regard to China's capabilities, Dr. Davidson stated: “I did a comprehensive literature search with the focus on 2017, so saying what did the Chinese know in 2017, and the only way I can look at this is what were they publishing in the public literature, which as we know, is probably a fraction of what they know.” (*Id.* at 117).

And, finally, Dr. Davidson acknowledged that Defendant, when communicating with the GE Aviation employee, referenced obtaining GE Aviation's files from a directory, but Dr. Davidson was unaware of the directory's contents. (*Id.* at 132-33). And while Dr. Davidson opined that the directory does not *appear* to contain anything of considerable value to China, he further acknowledged that his opinion is merely an

inference, based on the file names alone. (*Id.* at 133) (“I will say that from the directory, I can only infer, right, what’s in those files, right, because all I saw was the file names, I didn’t see the files”).⁶ Given the uncertainty as to what GE Aviation’s directory actually contained, and given Defendant’s evidenced intent to continue collecting information from the GE Aviation employee, the Court cannot conclude with any degree of certainty that the information Defendant sought to obtain would have truly been inconsequential.

In short, while Dr. Davidson’s opinions are reasonably based on the information he has before him, the information before him is unquestionably incomplete. And those unknowns render Dr. Davidson’s opinion speculative.

All of this, however, is entirely beside the point. Dr. Davidson’s testimony speaks to whether or not GE Aviation’s intellectual property might have had value to China. But that is not the question before the Court. Rather, the Court is focused on the scope of Defendant’s subjective intent to cause financial harm to GE Aviation. And there is no evidence to suggest that Defendant knew or reasonably could have known, *in advance of committing the offense*, that GE Aviation’s trade secrets would be virtually worthless to China. To the contrary, Defendant’s efforts to obtain the information (which efforts the Government has evidenced beyond a reasonable doubt), show that Defendant believed his task to be worthwhile. Thus, even if China truly stood to gain nothing from this offense, that knowledge cannot be attributed to Defendant. In short, Defendant’s argument conflates China’s potential to *gain*, with Defendant’s intent to inflict *loss*.

⁶ The directory was prepared for purposes of the FBI’s investigation and was not a true copy of GE Aviation’s actual directory.

Accordingly, the Court returns to its prior finding that, for purposes of sentencing, GE Aviation's potential loss in profits is the appropriate measure of Defendant's intent to inflict economic harm. In that regard, the Government's post-hearing brief provides an alternative loss computation based on market share loss. (Doc. 206 at 19-21).⁷ While similar in principle, the Court's intended profit computation differs slightly from the Government's computation and, notably, amends one key issue in Defendant's favor.

That is, the Government's computation uses GE Aviation's 2019 revenues to account for the monetary loss. However, as a general matter, revenue accounts for income prior to the deduction of a business's costs and expenses (*e.g.*, operating expenses, cost of goods, *etc.*). And, in all due fairness to Defendant, the Court finds no reason to include such costs and expenses as part of Defendant's intended loss to GE Aviation. That is to say, assuming Defendant had succeeded in stealing GE Aviation's trade secrets, and assuming China had used those trade secrets to successfully create a competing product, the result would have been a loss in business to GE Aviation. But to the extent that GE Aviation's revenues include general operating expenses, GE Aviation would either: still incur these expenses, regardless of Defendant's conduct, by virtue of its remaining operations; or, alternatively, the expenses would not be incurred at all if

⁷ In his post-hearing reply, Defendant objects to the Government's market share loss computation because, *inter alia*, the Government had not previously disclosed this proposed methodology. (Doc. 207 at 11-14). However, the Government offered the market loss theory (supported by its appended documentation), in response to Defendant's argument that the Court should reject the research and development cost methodology. The Court finds nothing improper about the Government's attempt to respond to Defendant's arguments and to be responsive to the Court.

Defendant's conduct resulted in a substantial decrease in GE Aviation's operations. Moreover, while losing customers to China would cause GE Aviation to lose profits (as Defendant intended), GE Aviation would equally not incur the expenses associated with fulfilling the orders of those lost customers. Accordingly, the Court will use GE Aviation's reported profits, rather than its revenue, in order to calculate the loss amount.

B. The Court's Loss Computation

For purposes of the Court's profit loss computation, the Court will utilize the profits reported in GE's 2019 Annual Report. GE, 2019 Annual Report, *available at*: www.ge.com/sites/default/files/GE_AR19_AnnualReport.pdf. The Court selects the 2019 calendar year for two reasons: (1) it is well over a year after Defendant's offense conduct ended (prematurely) with his arrest in April 2018; and (2) the statistics for any calendar year after 2019 are skewed enormously due to the COVID-19 pandemic, which circumstances Defendant could not have foreseen in 2018 and, therefore, could not have accounted for in his intended harm.

In 2019, GE Aviation reports \$32.9 billion in total revenues, including equipment and services to its global customer base.⁸ *See* 2019 Annual Report at 21-23. Of the total revenues for 2019, \$24.2 billion is attributable to revenue generated from commercial

⁸ GE's 2019 Annual Report states that: "We also provide aftermarket services to support our products." 2019 Annual Report at 21 (emphasis added). Thus, the Court finds that service contracts are entirely relevant and should be included in the Court's computation. By nature of GE Aviation's service policy, a reduction in GE Aviation's products in the market would also reduce its calls for service, thereby causing a corresponding loss of revenue and, ultimately, a loss in profits.

aircraft engines. *Id.* at 22.⁹ Next, taking into account GE Aviation’s reported 20.7% profit margin (*id.* at 23), the Court determines that GE Aviation’s profits from global commercial equipment and sales in 2019 is \$5.0094 billion (*i.e.*, 20.7% of \$24.2 billion).

Having determined the relevant 2019 profits, the Court reduces this figure further, as Defendant could not have genuinely expected to divert all of GE Aviation’s customers to China. To be sure, such global dominance on behalf of China may indeed have been Defendant’s true goal and intent (which intent, the Court must acknowledge, *is* precisely what the Court should be considering). The Court further recognizes the Guidelines’ instruction that Defendant’s intended loss “includes intended pecuniary harm that would have been impossible or unlikely to occur.” USSG § 2B1.1, App. Note 3 (emphasis added). Thus, the Court’s findings as to Defendant’s intent, unrealistic as that intent may have been, should end the inquiry here. Nevertheless, in an effort to extend all fairness to Defendant, the Court will constrain its computation to reflect a more logical outcome.

Thus, the question that remains is, what percentage of the 2019 profits can the Court say GE Aviation may have lost (again, acknowledging that Defendant likely *intended* greater economic harm than what GE Aviation may realistically have lost).

⁹ The \$32.9 billion in revenues includes: \$4.4 billion from the military segment (which the Court subtracts from the total revenues); and \$4.3 billion from the “Systems & Other” segment. 2019 Annual Report at 22. “Systems & Other” includes revenue generated from “engines components, systems and services for commercial and military segments.” (*Id.* at 21). While some revenue generated from “System & Other” should appropriately be included in the loss, the end result of such a computation would not change Defendant’s offense level, as calculated by the Court. Therefore, in the interest of simplicity, the Court will exclude this segment entirely.

One approach would be to consider that, if China had created a competing engine (likely at a reduced cost, assuming even marginal savings in research and development), the competing product would likely have considerable success in, at the very least, the non-U.S. market, which accounted for 59% of GE Aviation's 2019 revenues. 2019 Annual Report at 23. Indeed, even if the Court were to focus solely on those countries within China's immediate geographic periphery, the Asian market alone accounts for over 20% (\$6.6 billion) of GE Aviation's 2019 revenues, equating to nearly \$1.4 billion in profits from just one out of GE Aviation's four non-U.S. market segments. *Id.* And, for purposes of the Guidelines, capturing a fraction of the Asian market (roughly 10%) would be enough to drive Defendant's loss computation up and increase his offense level.

On the other hand, the Court could continue to extend Defendant the benefit of lenity and, instead, assume that a competing product from China would capture no more than 1% of GE Aviation's global business. This would result in a loss amount of \$50,094,000, resulting in a 2-level reduction to the PSR's calculation of Defendant's offense level (though still resulting in a Guideline range that exceeds a 15-year statutory maximum).¹⁰

¹⁰ At a certain point, the Court's determination of the loss amount becomes largely academic. Specifically, Defendant's ultimate sentences, run concurrently, have a 15-year statutory maximum (*i.e.*, 180 months). For a 180-month sentence to exceed Defendant's Guideline range, Defendant would need to drop to a total offense level 33—*i.e.*, 6-levels lower than the PSR's total offense level 39. And a 6-level reduction on the loss chart is equivalent to a loss amount within the range of \$3.5 million and \$9.5 million. Thus, any loss amount of \$9.5 million or more would still result in a guideline range that encompasses or exceeds the statutory maximum (not accounting for Defendant's objection to the role enhancement). Moreover, while the Guidelines serve as the Court's starting point, the proposed range is advisory. Ultimately, this Court will take into account all relevant facts and information, and will impose a sentence that is sufficient, but not greater than necessary, to accomplish the purposes of sentencing. 18 U.S.C. § 3553(a).

Once again, the Court elects to conduct its loss computation estimate in Defendant's favor. Accordingly, the Court will utilize a 1% projected loss in profits to GE Aviation, and finds that the loss amount in this case is \$50,094,000.

Before concluding, the Court must address some of Defendant's arguments regarding the Government's market share loss computation, which arguments, the Court anticipates, Defendant would raise with regard to the profit loss computation as well.

Defendant objects to a loss computation based on an anticipated loss of business, arguing that such a calculation is speculative. (Doc. 207 at 12-14). The Court disagrees. The methodology does not derive from speculation, but from estimation, which is precisely what the Court is tasked with for purposes of the loss amount. The Court's estimate is based on real dollar amounts, representing real profits, supported by real evidence. And, indeed, every estimation the Court made was always in Defendant's favor. Thus, while the Court's loss amount may be far from perfect, it is, nevertheless, a reasonable estimate, based on a fair methodology, using facts and evidence, and ultimately resolving any uncertainty in Defendant's favor. This is what the law requires. *See, e.g., Howley*, 707 F.3d at 582 ("district courts need not reach an exact figure for the loss a victim suffered or the amount of harm a defendant caused or intended to cause; a 'reasonable estimate' will do"); *Patel*, 711 F. App'x 283, 286 ("a court 'does not have to establish the value of the loss with precision; it simply needs to publish the resolution of contested factual matters that formed the basis of the calculation").

Finally, Defendant asserts that, because this case "concerned the fan module, GE Aviation's revenue from the sale of *full* engines is not helpful...." (Doc. 207 at 13). The

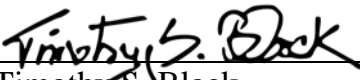
Court disagrees. As discussed at length, *supra*, the intended loss amount is based upon Defendant's subjective intent to inflict financial harm on the victim. And while, here, Defendant sought information regarding particular components of the entire engine (fan blades and encasements), Defendant's subjective intent was to have China use that information in building a comparable engine and, thereby, enter the market as GE Aviation's competitor. Thus, Defendant's subjective intent with regard to inflicting financial loss was not limited to harming GE Aviation's fan blade business, but rather GE Aviation's business as a whole. Accordingly, Defendant is held accountable for the entirety of his intended harm.

IV. CONCLUSION

Based upon the foregoing, Defendant's objection to the PSR's loss computation is **OVERRULED in part**. The Court adopts a profit loss computation and, accordingly, the Court finds that the loss amount for purposes of sentencing is \$50,094,000, resulting in a 2-level reduction to the PSR's computation of Defendant's offense level.

IT IS SO ORDERED.

Date: 11/5/2022


Timothy S. Black
United States District Judge